REMARKS

Applicant is in receipt of the Office Action mailed November 9, 2004. Claims 1 – 20 were rejected. Claims 1, 2, 4, 11, 12, 18, and 20 have been amended. Claims 8 and 16 have been cancelled. New claims 21 – 36 have been added. Claims 1 – 7, 9 – 15, and 17 – 36 are currently pending in the application.

Amendments to Specification

The present application incorporates U.S. Patent Application Serial No. 09/943,988 by reference. The application incorporated by reference was filed on the same day as the present application, and its serial number was not available at the time the present application was filed. Applicant has amended the specification of the present application to update it with the serial number and filing date of the application incorporated by reference.

Claim Rejections

Claims 1 – 8, 11 – 16, and 18 – 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,401,216 to Meth et al. (hereinafter "Meth") in view of U.S. Patent No. 6,128,759 to Hansen (hereinafter "Hansen"). Applicant respectfully traverses this rejection.

Claim 1 has been amended to read as follows:

1. A computer-implemented method for storing execution progress of a test executive sequence, the method comprising:
executing the test executive sequence on a computer system;
wherein the test executive sequence comprises a plurality of steps, wherein each step in at least a subset of the steps calls an external code module;
wherein said executing the test executive sequence comprises executing the test executive sequence under control of a test executive engine, wherein the test executive engine is operable to execute each of the steps in the plurality of steps according to an order of execution specified by the test executive sequence;
wherein for each step in the at least a subset of the steps, executing the step comprises the test executive engine invoking execution of the external code module called by the step;

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wherein the test executive engine is further operable to perform one or more snapshots of the execution of the test executive sequence, wherein each snapshot is performed at a particular step during execution of the test executive sequence;

wherein, for each snapshot, performing the snapshot comprises the test executive engine storing information usable to re-start execution of the test executive sequence from the step at which the snapshot is performed.

Meth contains no teaching regarding a test executive sequence that comprises a plurality of steps, where each step in at least a subset of the steps calls an external code module, as recited in claim 1. The elements of, "executing the test executive sequence under control of a test executive engine, wherein the test executive engine is operable to execute each of the steps in the plurality of steps according to an order of execution specified by the test executive sequence" and "wherein for each step in the at least a subset of the steps, executing the step comprises the test executive engine invoking execution of the external code module called by the step" are also not taught in Meth.

Meth also does not teach the element of, "wherein the test executive engine is further operable to perform one or more snapshots of the execution of the test executive sequence, wherein each snapshot is performed at a particular step during execution of the test executive sequence". Since Meth does not teach the concept of a step in a test executive sequence, Meth clearly cannot possibly teach performing a snapshot at a particular step during execution of the test executive sequence, and cannot teach the snapshot being performed by a test executive engine.

Applicant respectfully submits that Meth cannot be combined with Hansen to form a *prima facie* case of obviousness for several reasons. Applicant first submits that a *prima facie* case of obviousness cannot be properly made because Meth and Hansen are non-analogous art with respect to each other. Meth's invention belongs purely to the field of processing parallel programs. In particular, Meth relates to performing checkpoint and restart of a parallel program (see "Technical Field" section, Col. 1, lines 33 – 35). Meth contains no teaching or disclosure whatsoever regarding the use of a program to perform a test, and in particular contains no teaching or disclosure regarding a sequence of steps that perform tests.

In contrast, Hansen relates generally to the art of developing sequences of steps to test units under test (UUT's), such as semiconductors or other devices (see Abstract; Col.

2, lines 25 – 27). One skilled in the art of developing sequences of steps to test units under test cannot be presumed to be aware of art in the field of processing parallel programs. This is because sequences of steps, by their very nature, comprise steps that are executed sequentially with respect to one another, as opposed to being executed in parallel. For example, Hansen explicitly teaches that ". . .the selected test program is run, the steps specified in the corresponding tree are run in sequence. . ." (Hansen col. 15, lines 2-4).

In contrast, a parallel program as taught in Meth includes a plurality of processes that are independently executed in parallel on one or more processors. The processes of the parallel program communicate with each other and with a coordinating process by, for instance, passing messages back and forth (See Col. 5, lines 51 – 57).

Applicant submits that, by definition, steps in a sequence are run sequentially with respect to one another and not in parallel. Steps in a sequence of steps designed to test a UUT are often explicitly designed to run in sequence. If the Examiner believes that the art of developing sequences of steps to test units under test (UUT's) is analogous art with respect to the field of processing parallel programs then Applicant respectfully requests that the Examiner provide a reference disclosing a system in which multiple steps in a test sequence are executed in parallel with each other.

Thus, Applicant submits that Meth and Hansen are non-analogous art with respect to each other. Applicant also submits that there is no reasonable expectation of success in combining Meth and Hansen. As described above, execution of the tests in Hansen's test sequences is sequential in nature, while Meth teaches the execution of a parallel program. There is no reason to believe that the checkpointing of a parallel program as taught in Meth could be successfully applied to the execution of a sequence of tests as taught in Hansen. Applicant submits that the execution of a sequence of tests is fundamentally different from the execution of a parallel program.

In the current Office Action, the Examiner argues that, "Hansen contemplated, and in fact desired, to have the invention practiced on a distributed processing architecture" because at various places in Hansen's disclosure the desirability of a "distributed tester architecture" is mentioned. Applicant does not disagree. However, having a "distributed tester architecture" as described in Hansen does not in any way

mean that the steps in Hansen's test sequences are, or can be, executed in parallel with respect to each other.

Attention must be given to what is meant by the term, "distributed tester architecture". For example, at Col. 3, lines 19 – 22, Hansen discloses that, "We have also recognized the desirability of having a distributed tester architecture. For example, a local tester might perform test development and control functions while remote testers perform testing and analysis functions." Thus, Hansen apparently contemplates that development of a test sequence (i.e., development and control functions) may be performed on one tester while the actual running of the test sequence (i.e., testing and analysis functions) may be performed on another tester. At Col. 3, lines 24 – 26, Hansen goes on to say that, "Further, one or more testers might be dedicated to performing data analysis functions, thereby allowing other testers to focus upon collecting test data." Thus, Hansen apparently contemplates that some testers might run a test sequence to collect test data, and other testers may analyze the collected data.

Thus, while Hansen contemplates that various functions associated with testing the UUTs, such as developing the test sequence, running the test sequence, and analyzing the collected test data, may be distributed across different testers, Hansen nowhere teaches or even remotely suggests that tests in a test sequence may be executed in parallel with respect to each other. In fact, as noted above, Hansen explicitly teaches otherwise by stating that ". . .the selected test program is run, the steps specified in the corresponding tree are run in sequence. . ." (Hansen col. 15, lines 2-4). Applicant thus submits that there is no reasonable expectation of success in combining Meth and Hansen.

Thus, for at least the reasons provided above, Applicant respectfully submits that claim 1, and claims dependent thereon, are patentable over the cited references. Independent claims 11 and 18 recite similar features as claim 1, and so for at least the reasons provided above, Applicant submits that these claims, and claims respectively dependent thereon, are also allowable.

Applicant also submits that numerous ones of the dependent claims recite further distinctions over the cited art. It is noted that dependent claims 21 – 36, which recite further distinctions over the cited art, have been added under claim 1. However, since the

independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

Claim 20 was also rejected under 35 U.S.C. 103(a) as being unpatentable over Meth in view of Hansen. Applicant respectfully traverses this rejection.

Claim 20 has been amended to recite in part, "executing the test executive sequence hierarchy on a computer system, wherein the test executive sequence hierarchy includes a plurality of test executive sequences related to each other according to a hierarchical relationship, wherein each of the test executive sequences includes a plurality of steps". Neither Meth nor Hansen teach or suggest the concept of a test executive sequence hierarchy as recited in claim 20. Applicant thus submits that claim 20 is allowable.
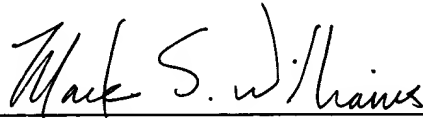
CONCLUSION

In light of the foregoing amendments and remarks, Applicant submits the application is now in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-50100/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

Respectfully submitted,

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